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CONTENTS

An Experimental Summer High-School Program..... 113
DON D. LONGNECKER, DOROTHY M. HERBST, AND DOROTHY F. KAVANAUGH

Needed Research in School Broadcasting..... 120
WAYNE M. CARLE

Editorial Comment..... 131

Readings..... 132
Introduction to Educational Administration; Introduction to Educational Measurement; Problemkinder; Geography in the Twentieth Century: a Study of Growth, Fields, Techniques, Aims and Trends; Your Memory—Speedway to Success in Earning, Learning and Living; A Critical Analysis of Current Concepts of Art in American Higher Education; Educating Gifted Children.

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Educational Research Bulletin

MAY 13, 1959
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An Experimental Summer High-School Program[1]

By DON D. LONGNECKER, DOROTHY M. HERBST, AND DOROTHY F. KAVANAUGH

Mr. Longnecker is principal of Fairview High School, Dayton, Ohio. Miss Herbst and Mrs. Kavanaugh were instructors in the summer program.

THE Conant Report indicates that small high schools (those enrolling less than one hundred in the senior class) are neither economical nor efficient. The problem in all such schools is to provide better offerings and richer experience which will lead to more effective preparation for both college and life. In Ohio small school districts have been rapidly disappearing during the last few years. As districts are consolidated, students should receive much more adequate preparation.

A quite similar problem now confronts teachers and school officials in urban areas if the so-called "gifted" student is to be educated properly. Because of population shifts, superior students are being widely scattered throughout all school districts. Even in secondary schools enrolling a thousand or more, the number of students with exceptionally high intelligence quotients may be relatively small. Consequently, it is difficult, if not impossible, to set up special programs.

In Dayton there are nine high schools. In one or two of these, an advanced-placement program has been in effect for several years with good results. The program adopted at Fairview High School in the summer of 1958 was developed after several plans were analyzed in an effort to find the one that could be best utilized by the greatest number of students with special abilities. Because of the many disadvantages of any plan

[1] The effectiveness of this program has been cited by W. Todd Furniss in "The University, the High Schools, and the Superior Student" (EDUCATIONAL RESEARCH BULLETIN, XXXVII, October 8, 1958), p. 171.

which would send students out of their own school district into another for a single course or two, it was decided to conduct a summer-school program for those students who could qualify. The program was inaugurated under the title "An Enriched and Advanced Experimental Summer School."

The new program was conducted in Fairview High School, where necessary laboratory equipment and textbooks had been accumulated for use in the advanced-placement program held during the regular term. In the twelve courses offered, 170 students enrolled. The number of classes and enrollment were purposely limited so that the initial program could be thoroughly evaluated. As far as possible, enrollment in each class was held to a maximum of twenty.

Students were selected on the basis of intelligence tests, achievement tests, past performance, teachers' judgments, and recommendations by their principals. They came from the high schools of the city and from twenty elementary schools (the latter group having just finished the eighth grade). With few exceptions, students had shown an intelligence quotient of at least 120.

THE program was developed to provide academic challenge and personal enrichment for the student. Superintendent Robert B. French secured the unanimous approval of the Dayton Board of Education to a detailed plan of objectives, offerings, and prerequisites.[2] These were outlined by the Curriculum Department under the direction of Assistant Superintendent Harold L. Boda.

The plan that was submitted listed the following courses with brief descriptions where necessary:

1. *Algebra*
2. *General Science*
3. *Backgrounds of American Democracy:* study of history—ancient, medieval, and modern—as it relates to social, cultural, and political developments affecting the growth of American democracy.
4. *English Composition and Advanced Usage:* emphasis on grammar and expository writing to train students to read accurately, to write clearly and correctly, and to analyze and evaluate ideas.
5. *Literature Appreciation:* intensive study of one or two literary works and their backgrounds.

[2] "Proposed Summer Program of Enriched and Advanced Courses for Certain High School Pupils and High School Graduates of June, 1958." Dayton, Ohio: Dayton Public Schools. (Mimeographed).

6. *Appreciation of the Arts:* study of basic principles and the interrelation among music, visual art, drama, and literature.
7. *Advanced Chemistry:* study of semimicro qualitative analysis, which deals with identifying the elements, radicals, or ions present in an unknown substance.
8. *Advanced Science and Mathematics:* application of scientific or mathematical principles in the development of a research project or report.
9. *Advanced Biological Science:* study of basic biological concepts and principles and practice in independent scientific thinking.
10. *Introductory College Mathematics:* study of concepts of limits, maximums and minimums, average rate of change, slope of line, *n*th order determinants, and combinations and permutations.
11. *Trigonometry*
12. *Special Service Course on Techniques of Taking College Examinations and College Entrance Board Examinations as Well as Techniques of Developing Good Study Habits*
13. *Speed and Developmental Reading*

Because of their current appeal, science and mathematics courses were stressed. Students who were accepted for the program enrolled in one of the courses listed among the first eleven. If they wished, they could, in addition, elect either of the last two courses. All of them, except the last two, were given in three-hour sessions five mornings a week; they were designated for four and one-half (one-half credit) or nine (one credit) weeks. The courses in study habits and speed reading (noncredit) were offered in the afternoon.

Teachers for this experiment were chosen from those who had demonstrated success in their own classrooms and had been recommended by principals. Whenever possible, they were selected from different areas of the city. Some excellent teachers may have been lost to the project because of their summer plans, but those finally chosen proved to be unusually competent. Probably many experienced teachers could handle this type of program. Regardless of their own scholarship, the teachers had to spend many hours of work in setting up a course of study which would be sufficiently challenging.

Parents and students were informed that fifteen hours of classroom work in a single subject constituted an intensive program that would require more studying than most of these young people had ever done. Younger students particularly had difficulty adjusting to the accelerated pace, probably because their high intelligence had allowed them to acquire poor study habits and attitude patterns.

Students in the general-science, algebra, and plane-geometry classes were tested on the final day of the summer session. On the Cooperative General Science Test, Form Z, scores ranged from 67 to 74, percentiles from 96 to 99, with a median percentile of 98. Two classes in algebra had been offered, each under a different teacher. Although the standard median score on the Cooperative Elementary Algebra Test is 52.9, one class had a median score of 73, the other, 72. The combined median percentile of the two classes was 98.5. The test in plane geometry showed much the same results; percentile scores ranged from 83 to 99+, with 97 as the class median.

A DESCRIPTION of two of the courses may give a better indication of how the broad objectives of the program were to be achieved in specific classes. The course in appreciation of the arts was, perhaps, the most experimental. Since in most curriculums the study of the arts is neglected, this course was designed to offer the arts-conscious student a general survey of his rich cultural heritage.

Students taking the course ranged from those who had completed the eighth grade to high-school graduates. Counselors recommended the students on the basis of interest rather than practical ability in the four representative arts. Since the students' individual interests varied greatly, the teachers did not presuppose any specific background.

The four-and-one-half week session was divided into five units taught by three instructors, who used a combination of lecture and demonstration techniques. The class was given an introduction to the origin and development of earth and man as a broad basis for interpretation of the term *arts*. Drama, music, visual art, and literature were treated separately and then synthesized in the various forms in which these arts appear in the life of the twentieth-century person. The relation between social and cultural trends was constantly stressed.

The three instructors attempted to approach the tools of each of the arts realistically so that abstract concepts could be presented concretely and the student could become thoroughly familiar with these four arts. In every case the historical was integrated with the students' interpretations of the arts in their own lives. Laboratory sessions held outside the school in professional and noncommercial facilities brought each student into

contact with the practical aspects of the arts as well as the theoretical.

In retrospect, the instructors are agreed that the course should be retitled, perhaps "An Introduction to the Arts." Also they believe that a narrowed age span would permit an accelerated tempo and wider areas of study. They are convinced that, with these changes, the course should be continued.

THE class in speed reading was made up of 27 students ranging from beginning ninth-graders to June high-school graduates. With only one exception, all had achieved reading skills above their grade level as measured by standardized reading achievement tests.

Class time was divided for work in three areas: practice with the Controlled Reader (a filmstrip projector that permits paced reading); self-testing with printed materials; and lectures and discussions intended to point up techniques to increase reading speed and comprehension, to further vocabulary development, and to promote skill in evaluation of printed materials, such as a newspaper or an advertisement.

All students in the class took part in the daily lecture and discussion. Practice with the Controlled Reader was given in groups divided according to the skills and abilities of the students. Three practice groups were organized at the beginning, but because of the differences in individual growth patterns, by the end of four weeks there were seven groups.

All students showed increased skill in both comprehension and speed. At the end of the course, more than half the class could read at a rate of over five hundred words a minute with comprehension of 80 per cent or higher. Four students achieved a maximum speed of more than twelve hundred words a minute. Three showed an increase of one hundred or fewer words a minute. Since no follow-up study has been made, it is impossible to determine how much of this increase in reading skills has been maintained.

AT THE close of the session, questionnaires were filled out by the students. Some of the results revealed their similarities to and differences from the average group.

One hundred per cent of those enrolled planned to go to college. Surprisingly, only 7 per cent indicated some doubt of

their ability to go because of financial need. These students were all assured by college representatives and school administrators that if their work continues to be outstanding they will be provided with some kind of financial aid.

Sixty per cent of all those enrolled in the summer program were at the sophomore level or below; yet 71 per cent of the total in all classes had already tentatively chosen colleges. One-half planned to attend Ohio colleges; one-fifth were interested in Eastern colleges; the next largest group chose the Far West; and the rest considered Midwestern colleges within a radius of two hundred miles of Dayton.

Considerably more than 90 per cent (including eighth graders who had never been enrolled in high school) had already tentatively chosen vocations. The following were reported most frequently:

Engineering (many phases)	31	Psychology	4
Teaching	28	Business	4
Science	23	Home Economics	4
Medicine	18	Mathematics	3
Law	7	Music	3
Art	6	Aviation	3
Nursing	4	Library Science	2
		Journalism	2

When the students were asked to weight their interests in six academic fields, they listed their preferences in the following order: mathematics, literature and music (tied in interest), history, drama, and art. The girls, however, placed literature above mathematics. The field of science was not surveyed, but it seems highly probable that those who prefer mathematics over the arts also prefer science. Apparently more than coincidence is responsible for the correspondence between interest in mathematics and interest in music.

The hobbies that the students listed cover a broad range:

Reading	Ham radio	Photography
Building models	Music (including record playing)	Scouting
Stamp collecting	Electronics	Dancing
Geology	Dramatics	Sailboating
Ice skating	Astronomy	Designing
Fishing		

Music was indicated most frequently; some type of model building ranked second.

The educational backgrounds of the parents of these students are rather revealing. Fifty-one per cent had at least one college degree; 71 per cent had had some college training; 96 per cent had completed at least twelve years of schooling. The median

educational background of the fathers was 3.8 years of college; of the mothers, 2 years.

AFTER having completed the program, the students were asked if they wished to enroll next summer in a similar course. Seventy-five per cent said that they did; 10 per cent indicated that they would attend if they did not secure work; 10 per cent were undecided; and 5 per cent said "no." In citing the value of the course, students mentioned particularly their improved reading skills and vocabularies. Typical comments offered were:

"I find that I want to learn."

"I am accomplishing something worth while."

"This course requires a great deal of homework, but it will be worth it."

Eighty-three per cent expressed a keen interest in acceleration in their regular school programs.

Comments by the parents are, perhaps, more significant:

"A very worth-while and challenging program. It deserves continuation and expansion."

"This is an experience few students get, even in college, unless it is in seminar work."

"This is an excellent challenge for the student who has been quite bored in the traditional classroom situation."

"He was not afraid to strike out on his own in opinions and questions."

"This course has taught my daughter the value of budgeting her time and really applying herself."

During the summer a number of college and university representatives visited the school. One of these visitors observed:

I was tremendously impressed with the quality of instruction being offered these students. I have rarely seen the discussion method of instruction used as well or the level of pupil participation as great as was the case in these classes.

In an effort to determine more fully the effectiveness of the program, school officials submitted questionnaires to parents after the students had finished one semester of work in their regular schools. An attempt was made to determine whether the accelerated program had been too intensive, whether the student had

[*Continued on page 140*]

Needed Research in School Broadcasting

By WAYNE M. CARLE

Mr. Carle, a Mass Media Fellow of the Fund for Adult Education, is studying at Ohio State University. He is on leave from Brigham Young University, where he is an instructor in radio-television journalism.

DURING the last decade, the advent of instructional television has renewed the kind of fervor among educators that thirty years ago accompanied the development of school radio broadcasts. The electronic screen is often regarded as a solution to many problems in overcrowded, understaffed schools. The longer experience of radio educators, however, indicates that new media of learning require more than enthusiasm to gain widespread acceptance and prove their effectiveness. Past and present research is helping to provide evaluation and give needed direction to school broadcasting, but many basic questions still lack answers. This report indicates the status of research and the scope of problems in classroom uses of radio and television.

Evidence of growth and experimentation in educational broadcasting exists almost everywhere in the nation. In the field of telecourses for credit alone, a Michigan State University survey (19) showed that 464 program series were offered on television in 1957–58, at least 138 of which apparently were for public-school use. Thirty-seven new educational television stations, plus 147 FM and 38 AM educational radio stations currently are creating new programs. It is difficult for evaluation to keep pace with such productivity. As Kumata (16, page 1) observes:

> We need pioneers in any new field. There is a danger, however, that the energies and talents of these pioneers may be dissipated on numerous byways which will not produce fruitful results. It is here that research may perform one of its functions.

Considerable research in the field of school broadcasting has, of course, been done. A great deal of historical and status investigation in radio was sponsored by the Nelson Memorial Library (4, 5, 6) and the National Advisory Council on Radio in Education (13). During the 'thirties and early 'forties, several series of studies—particularly the Evaluation of School Broadcasts at Ohio

State University and the University of Wisconsin project which measured the effectiveness of a series of classroom programs—defined criteria, described utilization, surveyed the outcomes, and interpreted the significance of many kinds of programs.

As early as 1930, the Secretary of the Interior's Advisory Committee on Education by Radio (1) reported that successful school broadcasts had been presented in Connecticut, California, and Georgia. It mentioned the Standard School Broadcast in California, the Ohio School of the Air, the nationwide Damrosch Course in Music Appreciation, and the national programs of England, Germany, and Austria. A subcommittee declared, however, that there had been relatively little research to that date and that the little done had been concerned mainly with the listener to determine extent of program usage.

In a 1936 evaluation of research in classroom broadcasting, Tyler (33) cited the need for studying broadcast outcomes in terms of appreciations, thinking habits, and sensitivities; comparing radio education to other kinds of learning experiences; finding out what type of radio personality was most effective on the air; developing adequate evaluation techniques; co-ordinating and selecting facilities for classroom broadcasting; and selecting materials for broadcast. He found "relatively few" studies in the whole field of classroom broadcasting.

By 1942 Reid and Day (25) had compiled a list of 205 research reports and other readings in school broadcasting. The Second World War, however, cut short many of the interpretive studies which were defining the implications of serious broadcasting, and the postwar trend in radio research has been toward audience analysis. A bibliography (21) which includes recent research in radio is heavily weighted with listener surveys and comparisons of the mass-communications media but lacking in studies of the school uses of radio.

After only eight years of experimentation in educational television, Kumata (16) in 1956 listed 71 research reports and 173 other writings in that field. Since colleges and universities produce the largest share of educational-television programs, there is more research on the effectiveness of television in college classrooms and in adult education than in the public schools. Here, also, many investigators are concerned with nose-counting and audience appeals. This latter concern prompted a seminar of the

National Association of Educational Broadcasters (32, page 4) to observe that

> Educational broadcasters must often demonstrate the effectiveness of their media, in order to promote use of the facilities and to teach others how they may be used. This activity meets a real need, but should not be confused with research.

More recently, grants from the Fund for the Advancement of Education have stimulated a number of experiments (20) in the use of television in public schools. Current projects are under way in Atlanta, Cincinnati, Detroit, Milwaukee, Norfolk, Oklahoma City, Philadelphia, and Wichita; Dade County (Miami), Florida, and Jefferson County, Kentucky; and Nebraska, North Carolina, and Oklahoma.

Before outlining problems that need further study, a summary of some of the research that has been done will be helpful.

MANY studies of school radio broadcasts have been made. An important one, prepared by Reid and Woelfel (26), outlines criteria for judging school broadcasts with respect to educational values, clarity and comprehensibility, and interest and appeal. Such criteria have been tested against network programs by Reid (23), who found that a panel of teachers can evaluate programs effectively. Wiebe (35) has used similar criteria in evaluating regionally produced programs. His research pointed up the difficulty of keeping broadcast materials for children simple enough.

Woelfel and Robbins (39) have studied the extensive ways in which radio can be used throughout a school. An analysis of the radio-sound system, its specifications, and ways of involving students in broadcast activities have been discussed by Lowdermilk (17).

Barr and others (38) surveyed the uses of Wisconsin School of the Air broadcasts in music, nature study, geography, community living, English, and speech and found a high rate of acceptance of radio as a teaching aid.

In 1941 Reid (24) discovered that only about half of the schools in Ohio had radio receivers and estimated that the set saturation nationwide would be even lower. He found that less than 1 per cent of the state's teachers were using any of the five Ohio School of the Air programs then being broadcast and that

urban usage was higher than rural. Programs beamed to secondary schools had smaller audiences than those prepared for elementary schools.

By 1948–49 Tettemer (31) concluded that 24 per cent of the elementary-school children in the state, mostly in the primary grades, were hearing Ohio School of the Air broadcasts. Poor reception experience was the factor most responsible for not using such programs. About 73 per cent of the teachers responding used preparation materials and follow-up suggestions from teachers' manuals as well as the programs. In England, Bailey (7, page 51) reports that a series of school programs succeeded "almost in proportion to the time teachers could give to preparing and following up the broadcasts."

Recently an extensive survey of Canadian school broadcasting (22) showed, as findings in the United States have, that radio is used more in the elementary than in the secondary schools. Some 40 per cent of the teachers using programs did little or no planning; only about 21 per cent of them had received training in the use of broadcasts. The data reflected the need for written statements of program objectives, a continuing evaluation program, and greater dissemination of information about utilization of the broadcasts.

A number of studies have attempted to weigh the effectiveness of educational programs. The Wisconsin project (38) found that there was no consistent difference in favor of radio when subjects other than music were tested in controlled experiments. Wiles (36) found that a group of junior-high school students learned more from listening to a series of news broadcasts than did a comparable group of students who studied current events in the classroom. Other studies, however, have shown no significant difference in information acquired by radio listeners as compared to non-radio groups. There is similar disagreement with respect to changes in attitude as a result of broadcasts. Cohen (10) worked with children in New York City to determine the relative effectiveness of silent reading and radio listening, but results were inconclusive.

RESEARCH on the use of television in schools is less abundant. In a 1954 survey of public-school administrators in Iowa, Becker (9) found that 64.7 per cent of those polled recognized a genuine need for educational television programs in schools,

although only 40.6 per cent would recommend the purchase of equipment to their school boards. These data are especially interesting when compared to similar findings of a 1927 survey by the (Payne Fund) Committee on Educational Broadcasting (12, pages 33–34), which revealed that 93 per cent of the administrators polled favored the organization of a radio school of the air, but only 44 per cent thought they could buy equipment. Becker found that science, social studies, and art, in that order, were the subject areas administrators believed would be most profitable on television. The earlier radio survey placed music, geography, and literature first.

Becker (9) also found that the effectiveness of television programs was enhanced by visual aids, logical presentation, student interest, proper language level, relationship to courses, and inclusion of humor, in that order. Ineffectiveness was generally caused by a lack of these factors.

In San Diego, Stanley (29) concluded that demonstration lessons such as those used in science seem to have a higher direct instructional value than other kinds of programs on television. Willis (37) discovered no significant difference in algebra and physics test scores of students instructed by television and those who were not. Teachers who were surveyed thought that television instruction was less effective than regular classroom instruction. A survey by Stanley (28), however, showed that 72 per cent of the teachers polled in San Diego rated the educational value of 92 half-hour secondary and elementary programs from excellent to good.

Ulrich (34) found that a group of eighth graders did significantly better than a control group after exposure to instructional materials on kinescopes. Three programs were used, one employing only lectures, a second augmented by visual aids presented by the speaker, and a third with images flashed directly on the screen. The two kinescopes using visual aids produced higher post-test scores than did the lecture method.

In a study on mathematics teaching by television, Anderson and Vander Meer (3) found no significant difference between the test scores of television and non-television groups. A similar finding is reported by Ambrosino (2) and others after testing high-school students who received instruction in English, chemistry, or mathematics as members of either television or classroom groups.

In a report of one of the experiments sponsored by the Fund for the Advancement of Education, Herminghaus (14) concluded that students were instructed by television at least as well as non-viewing control groups. The experiment, in St. Louis, involved exposing large groups of children to television programs on English composition, general science, and spelling.

A Canadian pilot experiment (30) involving use of eight television programs in classrooms was evaluated on the basis of teachers' analyses. No examinations or factual tests were given in connection with the telecasts as a formal part of the experiment, but the report indicates from teachers' observations of students' responses, that interest and attentiveness during viewing was high, that retention of information contained in the programs was good, and that further activity in the subject area was stimulated effectively. There were complaints that the programs were packed too solidly with content.

There have been few public-school studies on the relative value of instruction by television as compared with other media. Barrow and Westley (8) compared the teaching effectiveness of television with that of radio by producing a series of current-events programs separately to maximize the effectiveness of both media. Classroom groups were divided at random and assigned to the radio or television presentations. On an immediate-recall test of factual knowledge, the television group made significantly higher scores than the radio group.

Attitudes and interests of pupils were favorably affected by a series of programs on art in Columbus, Ohio, according to an evaluation by Schlaak (27). The study showed that the programs also motivated activity outside the classroom.

Research that has been done on selection of teachers for television series indicates that classroom competency is the most important factor in making a wise choice. Kelly and Conrad (15) found that the teacher's effectiveness in live classroom situations is more important in selecting him for television than photogenic qualities, voice, or the like, and that classroom utilization is as important as studio production in making the program successful. Investigating intercommunication, or feedback, techniques, they found that the use of an interviewer is least effective, but that panels of peers, intimate closeups, interludes in teaching to allow classroom discussion, raising of controversial questions, and "mind reading" or anticipation of questions were promising devices.

On the basis of present research in school broadcasting, the following generalizations seem justifiable:

1. Although extensive research into the criteria, techniques, and evaluation of the classroom use of radio preceded the Second World War, little progress has been made since that time in studying the sociological and psychological implications of school broadcasts. Some inferences may be made from related research in the field of commercial broadcasting, but these data have mostly to do with listener analysis for promotional purposes. It is likely that school broadcasting needs the same kind of basic research that is lacking in the total instructional program. "We are operating today, in many instances, on widely accepted assumptions derived from psychological and sociological studies of the learner and of society and from philosophical considerations of the role of the school," writes Miss McKim (18, page 35). If research is to contribute to improvement, she maintains, many of these assumptions may have to be re-examined.

2. On the other hand, in school broadcasting, as in other areas of education, we are not yet putting to use all that we know. Research indicates that only a small number of teachers have had training in the use of broadcast media.

3. Practical values of school broadcasts have not been demonstrated sufficiently. School administrators apparently agree in principle on the use of radio and television, but hedge when they are faced with investments in equipment.

4. Radio and television can produce results that are at least as effective as those produced by conventional classroom teaching, but the special and differential strengths of both media have had less than cursory exploration.

5. Numerous survey, evaluative, and testing instruments exist for objectifying some of the effects of school broadcasting, but there are almost no methods of analyzing motivations, values, and associations growing out of listening and viewing.

6. Much of the research in school radio broadcasting was done on the network and regional program basis; most of the studies in school telecasting have been on a local basis. There has been little investigation of the relative contributions of local and regional school-broadcasting services.

7. What little has been concluded about teachers who broadcast is that they should, above all, know their subjects and be competent in broadcasting. Like their classroom counterparts,

however, radio or television teachers are not certain of the combination of competencies, skills, and personality traits that are most effective.

8. Like its commercial cousin, the school television program often has been patterned after what preceded it in radio. There are no clear criteria for good school telecasting as distinguished from good school radio broadcasting.

9. Since so much support for current research in school telecasting comes from a single source (Fund for the Advancement of Education), there is danger of giving undue emphasis to certain theories of educational broadcasting, such as the use of television in large classrooms.

10. Currently there is more experimentation than solid evaluation in school telecasting.

11. School radio programs have been more widely used at the primary level than at any other; school telecasts, on the other hand, have had greater use at the secondary and higher levels.

FOLLOWING are some of the questions in school broadcasting that need further study:

1. What kinds of experiences are children in school likely to receive only through broadcast services? For example, are there aural experiences comparable to those enjoyed through reading, which can be given to pupils who do not have the ability to read well? Can radio and television be used to enrich the instructional program for the gifted child?

2. What learning experiences can be transmitted best by radio? by television? From a practical point of view, when should a school invest in radio or television equipment or both? With regard to educational outcomes, what special contributions can be made best by each broadcast medium?

3. Besides achievement in subject-matter, what results of listening to or watching broadcasts can be appraised effectively?

4. What educational services can be provided best by national, by regional, and by local broadcasts?

5. Do radio or television students learn as much as classroom pupils if there is a time differential (a 30-minute program versus a 50-minute class session)?

6. To what extent can broadcasts infuse life into the curriculum through coincidental in-service training of teachers in classrooms receiving broadcasts? Do the demands placed on those

before the microphone and camera improve the quality of their teaching? Can teachers become more intimately involved in the planning, selection, and production of programs so that broadcasts may be better suited to classroom needs and used to better advantage?

7. Is conviction more easily established by broadcast teachers than by classroom teachers? What is the relationship between pupils' attitudes and the notion of the broadcast teacher's wisdom and omnipotence?

8. How can the objectives and criteria of school broadcasting be defined, implemented, and co-ordinated with the objectives of education? To what extent are practices in classroom broadcasting based on assumptions which need re-examination?

By helping to find solutions to these and other problems, research can make school broadcasting more effective. Efforts now must be launched in fruitful directions.

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EDITORIAL COMMENT

We Second the Motion

THE current issue of the *American Scholar* contains an article, "'Best Answers' or Better Minds?" by Banesh Hoffmann that deserves wide reading by students and practitioners of secondary and higher education.[1] The author criticizes multiple-choice tests of aptitude and subject-matter preparation on the grounds that they tend to test the student's ability to guess what was in the test constructor's mind rather than his own aptitude or knowledge and that they penalize the abler and better prepared students. This is not a mere armchair criticism: the author has actually studied a scholastic-aptitude test prepared by the Educational Testing Service and used by the College Entrance Examination Board. We shall not attempt to summarize Mr. Hoffmann's argument, but urge our readers to examine it for themselves.

Many administrators, supervisors, and teachers must have felt the same misgivings that Mr. Hoffmann does, but so far as we are aware, no one recently has put the matter so sharply as he has. He does not advocate discontinuing the use of multiple-choice and similar tests, but calls for a searching study of the whole matter of testing by a committee representing

> . . . scholarly organizations of the highest repute, such as the American Council of Learned Societies, the American Philosophical Society, the Modern Language Association, and the National Academy of Sciences. . . . The committee should include creative persons of commanding intellectual stature. Only a minority of the committee should consist of test psychologists or professional test makers, for the function of the committee would be to examine the situation from a fresh point of view, with special regard for the interests of those gifted young people whose talents do not conform to the statistically based norms of the multiple-choice testers (page 202).

Mr. Hoffmann's points are well taken and timely. With the increasing demand for college admission, the growing tendency to offer advanced placement on the basis of test results, and other current developments, such a study as he proposes becomes more important each day. We second Mr. Hoffmann's motion.

R. H. E.

[1] XXVIII (Spring, 1959), pp. 195–202.

READINGS

Books to Read

CAMPBELL, ROALD F.; CORBALLY, JOHN E., JR.; AND RAMSEYER, JOHN A. *Introduction to Educational Administration.* Boston: Allyn and Bacon, Inc., 1958. xvii+434 pp.

Here is a book of substance, insight, and inspiration that is worthy of scrutiny by all who would be in the vanguard of educational administration. Coming as it does at the end of a decade of C.P.E.A. and N.C.P.E.A. ferment, it delivers both essence and distillate. Its introductive scope and format provide orientation for both the prospective and practicing administrator.

Fourteen chapters treat the job, the man, and the profession. Most provocative is the analysis of the administrative process: decision making, programing, stimulating, co-ordinating, and appraising. Analogies between educational, clerical, military, business, and other governmental administration are helpfully highlighted and qualified. Primary administrative tasks are designated as co-ordinating school-community relations, building curriculums, developing personnel, providing physical facilities, managing money and materiel, and structuring organization. Measurement of potential, assessment of requisite competencies, and career routing and timing are intelligently handled.

The authors are seasoned practitioners, researchers, and scholars at two great centers of basic research in educational administration, Ohio State University and the University of Chicago. Their writing is coherent and cogent. Full circle as must be the sweep of a work with such a title, no important phase of educational administration is omitted. The reader is not bludgeoned into concurrence. The tone is not doctrinaire. The book is no potboiler, and the authors fortunately are not given to chatty and pontifical reminiscence.

The behavioral and situational phases of educational administration are appropriately more thoroughly introduced than are the informational and mechanical. Most of the footnotes refer to research rather than to secondary recapitulation. The chapter bibliographies are unpadded, though without annotation, and the "suggested activities" seem practicable.

No treatment between two covers can be even currently definitive in the dynamic sphere of educational administration, but perhaps once in a decade a well-organized, well-couched, and truly inspired treatment comes from competent pens and presses. Such is this work by Campbell, Corbally, and Ramseyer.

ROGER M. SHAW
Kent State University

NOLL, VICTOR H. *Introduction to Educational Measurement.* Boston: Houghton Mifflin Company, 1957. xxii + 438 pp.

This book is intended primarily for elementary- and secondary-school teachers who have not had any formal training in educational measurement. If used as a textbook, it would be suitable for a single-semester first course in the area.

After appropriate introductory comments and definitions in Chapter I and a brief historical survey in Chapter II, the author presents a rudimentary discussion of statistics in Chapters III and IV. The intent of these chapters is to overcome initial resistance to the use of statistical terminology and to dispense information at an elementary level. The author has done an excellent job of leading the reader by the hand through a discussion of ranking, percentiles, central tendency, variability, standard scores, correlation, quotients, and norms, all in 26 pages. As might be expected, some errors have crept into the treatment as a result of oversimplification. The statement is made, for example, that a correlation of .90 or higher between an intelligence test and an algebra test means that "we would be fairly safe in predicting that a given individual will have roughly the same score on the algebra test as on the intelligence test" (page 51). In addition, the author deviates from common practice by designating I.Q.'s between 80 and 120 as "average," whereas in the next sentence he classifies I.Q.'s between 80 and 90 as "dull" (page 53).

The discussion of statistical methodology is amplified in a 34-page computational cookbook presented in Appendix A. The formula for the standard error of estimate which is presented in this section may prove confusing in the absence of a prior description of the regression equation for making predictions.

Chapters V, VI, and VII are devoted to a discussion of test-construction procedures. Considerable attention is given to the need for defining objectives and to the "rules" for writing and scoring papers. It seems somewhat strange to see Kuder-Richardson "formula 21" popping out of the discussion with the accompanying suggestion that teachers may use it to estimate the reliability of their own tests. This formula, of course, yields information about homogeneity, but the emphasis in the discussion of reliability throughout the book is upon consistency as evidenced by retest results. A perfectly useful test consisting of diagnostic but heterogeneous subgroups of items may be discarded by a teacher because application of "formula 21" indicates low "reliability."

The most serious omission from the chapters devoted to teacher-developed tests is discussion about grading procedures. It is quite a step from raw scores to grade conversions. The teacher who inquires about setting a "passing score" or "separating the *A*'s from the *B*'s" on the basis of his carefully developed test had better look elsewhere for answers.

Much of the remainder of the book is devoted to a discussion of commercially available standardized tests and inventories. Thumbnail sketches

are offered for a number of these instruments, and cursory attention is given to the Thurstone and Likert scaling procedures. The brevity of the discussion of attitude measurement may produce more confusion than clarification.

In summary, this is a reasonably good book for novices in the area of measurement. The author did not set out to develop a high level of sophistication, but occasionally he seems to feel compelled to discuss topics beyond the scope of his treatise. The book might have been improved by a more rigid adherence to its original purpose.

LAURENCE SIEGEL
Miami University

Problemkinder. Bremen: Institut für Jugendkunde, n.d., 66 pp. (Zum 46. Jahresbericht des Instituts für Jugendkunde und Jugendbildung, e. V., Bremen.)

This pamphlet, written in German, is a report on problem children—mentally retarded, emotionally disturbed, neglected, deaf mutes, and those with various types of behavior problems—who have been diagnosed and treated at the Institute for Child Study in Bremen. Reports and tests by psychologists, pediatricians, classroom teachers, parents, and psychiatrists, as well as recommended treatments, are presented. This volume is the fourth in a series published by the Institute since its establishment 46 years ago.

The first chapter deals with types of problem children seen by the pediatrician. The fact that symptoms of a child's illness may be of either physical or mental origin is emphasized. Bed wetting is discussed as an example. The chapter concludes with a statement that the pediatrician who treats problem children must consider parent education as a large part of his responsibility.

The chapter on retarded children discusses those who have been vocationally trained in special schools (*Sonderschulen*) to the point of self-support, as well as those for whom education has failed. A list of the types of jobs for which some of these children were trained appears on page 28. Parents of retarded children are urged to send their children to the *Sonderschulen*, where the staff is trained to give help and encouragement in finding suitable work.

Another chapter describes the work of the Institute in vocational education. Intelligence testing, vocational testing, counseling—all are involved in the services of the Institute. The cases which are discussed include both successes and failures. The chapter concludes with the recommendation that psychological and vocational testing be made an essential part not only of the programs of industrial schools but also of large industrial firms.

The final chapter outlines a study of six hundred "only" children to determine whether or not traits such as conceit, stubbornness, lack of drive or initiative stem from the "only child" status. It was found that such traits were totally lacking in 37 per cent of the group. The study also revealed that these traits develop as a result of the relationship of the parent or

educator to the child and of the way in which the child reacts to this relationship. Overdependence and lack of desire to work result when parent or teacher is too willing to help. Discouragement and withdrawal from responsibility result when the demands upon the child are beyond his ability to perform. Self-direction, self-confidence, and freedom for personality growth result when the relationship is one of encouragement, affection, and readiness to give guidance and help. The guidance must be firm, but kind.

AMALIE K. NELSON

TAYLOR, GRIFFITH, editor. *Geography in the Twentieth Century: a Study of Growth, Fields, Techniques, Aims and Trends.* 3rd ed. New York: Philosophical Library, Inc., 1957. xii + 674 pp.

The third edition of this book, first published in 1951, has been enlarged slightly by the inclusion of a new chapter, "The Relation of Geography and History," and by the expansion of the chapter on "Exploration of Antarctica" to incorporate the early activities of the scientific parties in Antarctica during the first season of the International Geophysical Year.

The editor, Griffith Taylor, one time professor of geography at the University of Chicago and later chairman of the Department of Geography at the University of Toronto, returned to Sydney, Australia, at the time of his retirement. From this vantage point, he has assembled 29 chapters, six of which were written by himself. The other 23 authors are chiefly American, Canadian, and English geographers. Two, one from Czechoslovakia and another from Poland, complete the roster of contributors.

The book is divided into three parts of unequal length. Part I, "Evolution of Geography and Its Philosophical Basis," six chapters, is essentially historical and philosophical in character. Part II, "The Environment as a Factor," is both systematic and regional. Individual chapters treat of geomorphology, meteorology, climate, soils, settlements, the Arctic, and Antarctica. Part III, representing nearly one half of the book, is entitled "Special Fields of Geography" and deals with a wide variety of subjects such as racial geography, urban geography, cartography, aerial photography, sociological aspects of geography, geopolitics and geopacifics, and many others.

The professional geographer and readers from allied fields will find here a broad but uneven treatment of the science of geography. The reference material mentioned in the text, cited in the footnotes, and listed in the bibliography at the end of certain chapters is fairly representative of the significant literature in geography, although the discerning reader will miss some of his favorite sources. Unfortunately, the bibliographic material is very unevenly presented. In numerous instances the citations are incomplete as measured by the usual standards of documentation. There are occasional inaccuracies such as the reference to Hans W. Weigert and Vilhjalmur Stefansson's *Compass of the World* as *Compass of the North*. One author credits the late Armin K. Lobeck with physiographic maps that were

drawn by the reviewer. Although the book was published in 1957, it largely ignores the quantitative analysis of the terrain which has developed rapidly since the middle 1930's. Economic geography, one of the major branches of the subject, receives scant attention.

In spite of its shortcomings, the book is an important source of ideas. Both the graduate student in geography and the more mature scholar will find here the substantive and philosophical materials of geography.

GUY-HAROLD SMITH

HAYES, O. W. "BILL." *Your Memory—Speedway to Success in Earning, Learning and Living.* New York: Exposition Press, 1958. 96 pp.

This is another of the many mnemonic "systems," full of sound and fury but little or no fact. The first section consists of 61 of the 96 pages and deals with "Memory Magic." You go shopping for "a pound of bacon, a package of tape, a box of matches, a bouquet of flowers, a bottle of ink, a flashlight, a jar of mustard; getting your glasses adjusted, paying the telephone bill" (page 19). The "magic" consists in picturing a slab of bacon sliced, bound with tape, lighted matches glowing upright after being stuck into the bacon slices, ink spattering over the whole mess, etc., etc.

Part II deals with remembering faces, and Part III contains a code of one hundred words used for translating numbers to be remembered into sentences containing the code words. Thus Mr. Hayes' system is no different from all the other allegedly successful systems for getting something for nothing.

The unanimous verdict of competent psychologists who have tested such systems is that they are based on wrong principles, and if attitude and incentive factors are partialed out, never, under rigorous test and proof conditions, are the extravagant claims justified. The operations of remembering can be significantly improved by properly tested and proven psychological methods, none of which are found in Hayes' book. Here the amazing claim is made that in just seven days "You, too, can be a Memory Wizard!"

The book, incidentally, is dedicated "to the hostesses of Braniff International Airways."

SAMUEL RENSHAW

FILE, SISTER M. JEANNE. *A Critical Analysis of Current Concepts of Art in American Higher Education.* Washington, D. C.: Catholic University of America Press, 1958. xii + 108 pp.

A survey of historical and current concepts of art and their educational implications with special reference to Catholic higher education is the basis of this published doctoral dissertation. Sections dealing with substantive matters of history (Chapters I and II) may be of interest to artists, art historians, and art educators generally; on the other hand, those which evaluate theories of art and attempt to draw educational implications (Chap-

ters III, IV, and V) will probably be less useful for non-Catholic educators. The author clearly states that judgments are based upon Thomist teachings and Papal pronouncements.

From the historical survey of art theories, including classical, medieval, and modern metaphysical, St. Thomas Aquinas emerges as the representative of 25 centuries of majority opinion about the nature of art and its relationships to man's ideals. Modern and contemporary secular philosophers, led by Immanuel Kant, Benedetto Croce, and John Dewey, are pitted against the Aristotelian-Thomist tradition. The analysis of theories of art, past and present, is structured around etiological factors (Chapter III). These explore the ends, means, materials, and forms of the theories under study. At this point the reader may be disturbed by the absence of evidence of contemporary research in the behavioral sciences and education, but by her own admission, the writer is concerned with metaphysical and religious principles.

The outcome of the historical survey, the critique of art concepts, and the development of educational implications are found in the summary of Chapter IV. The author's synthesis of the summary follows:

> 1) Art education can best achieve its goals when professionally competent teachers are able to establish an apprentice-master relationship with students to the extent that they are practicing artists themselves and can offer adequate instruction, skillful demonstration of craft procedures, and competent criticism to those who have a right to expect it.
>
> 2) Art education is expedited through an educational program in which students acquire a sense of their vocational responsibility as well as training in specific arts in the course of engaging in artistic production for actual use, under discipline of the delimitative circumstances (page 91).

The final chapter, which deals exclusively with conclusions and generalizations, has special significance for Catholic artists and educators. These generalizations are based upon a theological frame of reference, "the highest wisdom through which all knowledge is set in order, and that whatsoever is found in other sciences contrary to it must be condemned as false" (page 95).

D. Alexander Severino

DeHaan, Robert F., and Havighurst, Robert J. *Educating Gifted Children.* Chicago: University of Chicago Press, 1957. x + 276 pp.

The ideas in this book were stimulated largely by work done on the Quincy Youth Development Project, 1951–52, in Quincy, Illinois. It also draws heavily upon the results of earlier studies of educational practices for gifted children which the authors and others had previously published.

In defining gifted children as those in the upper 10 per cent in one or more areas of ability, an important distinction is overlooked between talent

(or giftedness) and genius. The former terms are used to refer to the "second-order [of] gifted children." The term *genius* is reserved for the upper one-tenth of 1 per cent in a given ability (pages 1–2). Each of these groups requires an educational experience different from the other and different from the average if they are not to be undereducated. In the limited space of this review, it is impossible to trace the book's most interesting discussion of the implications just cited.

The ambivalent attitudes of society, parents, and educators toward the problems of adequate training for the gifted child are clearly presented as an explanation for the overlong postponement of any adequate attack on the educational lockstep that has tended to cause the brightest members of our society to learn habits of indolence and discouragement by not being given sufficiently challenging school and home training. Because of this lack, our society has lost many potential leaders. Chapters are devoted to the enrichment of the regular curriculum (VII) and to the development of creativity (XI). A discussion of community resources in the education of the gifted (Chapter XIII) could be a source of ideas for schools wishing to improve their curriculums in this area.

Chapter XIV, "The Gifted Child in the Family," is one of the most original parts of the book. The following chapter contains an equally unusual presentation of the problems and needs of the extremely gifted child (the "first-order"). Case studies and descriptions of actual class situations stimulate the reader's interest and clarify the generalizations made.

The Appendixes contain lists of attitude and achievement tests (referred to in the text) and the addresses where they can be secured, a list of organizations interested in gifted children complete with descriptions of the type of approach of each and the mailing address, and a thoroughly annotated bibliography relating several pertinent references to each of the book's fifteen chapters.

Educating Gifted Children is well written, comprehensive, and pertinent to an understanding of the education of superior children.

EMILY L. STOGDILL

Books Received but Not Reviewed

ALEXANDER, CARTER, AND BURKE, ARVID J. *How to Locate Educational Information and Data: an Aid to Quick Utilization of the Literature of Education.* 4th ed., revised. New York: Bureau of Publications, Teachers College, Columbia University, 1958. xvii+420 pp.

BENGE, R. C. *Technical and Vocational Education in the United Kingdom: a Bibliographical Survey.* New York: Columbia University Press, 1958. 52 pp. (UNESCO: Educational Studies and Documents, No. 27).

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GRODZINS, MORTON. *The Metropolitan Area as a Racial Problem*. Pittsburgh, Pennsylvania: University of Pittsburgh Press, 1958. iv+28 pp.

HEATH, KATHRYN G., editor. "Bibliography: 1957 Publications in Comparative and International Education." Washington, D.C.: Office of Education, U. S. Department of Health, Education, and Welfare, 1958. vi+98 pp. (Studies in Comparative Education).

JACOBSON, WILLARD J.; BOYD, FANNIE LEE; AND HILL, MARY M. *Promising Practices in Nutrition Education in the Elementary School*. New York: Bureau of Publications, Teachers College, Columbia University, 1959. x+46 pp. (Nutrition Education Research Project Monograph).

MCGAREY, MARY. *The People Speak*. Columbus, Ohio: State House Conference on Education, 1959. 56 pp. (A Summary Report).

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MATHEWSON, ROBERT HENDRY. *A Strategy for American Education: an Inquiry into the Feasibility of Education for Individual and Social Development*. New York: Harper and Brothers, 1957. xvi+296 pp. (Education for Living Series).

MILLER, VAN, AND SPAULDING, WILLARD B. *The Public Administration of American Schools*. 2nd ed. Yonkers-on-Hudson, New York: World Book Company, 1958. xv+606 pp.

NATIONAL CONFERENCE OF PROFESSORS OF EDUCATIONAL ADMINISTRATION. *Automation: Its Meaning for Educational Administration*. New York: Bureau of Publications, Teachers College, Columbia University, 1957. viii+56 pp. (A Report of the Tenth Annual Meeting, University of Arkansas, Fayetteville, August 26–31, 1956).

ODELL, C. W. "How to Improve Classroom Testing." Rev. ed. Dubuque, Iowa: Wm. C. Brown Company, Inc., 1958. viii+214 pp.

Physical Activities for Elementary Schools: a Manual for Physical Activities in the Health Education Program. New York: Board of Education of the City of New York, 1958. vi+254 pp. (Curriculum Bulletin, 1956–57 Series, No. 9).

ROSEN, ELIZABETH. *Dance in Psychotherapy*. New York: Bureau of Publications, Teachers College, Columbia University, 1957. xxii+178 pp.

SLICK, TOM. *Permanent Peace: a Check and Balance Plan*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1958. x+182 pp.

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STECKLEIN, JOHN E.; CORCORAN, MARY; AND ZIEBARTH, E. W. *The Summer Session: Its Role in the University of Minnesota Program.* Minneapolis, Minnesota: Bureau of Institutional Research, University of Minnesota, 1958. xi+188 pp.

SUTTLES, PATRICIA H., editor. *Elementary Teachers Guide to Free Curriculum Materials.* 15th ed. Randolph, Wisconsin: Educators Progress Service, 1958. xv+318 pp.

WITTICH, WALTER A., AND HALSTED, GERTIE HANSON, editors. *Educators Guide to Free Tapes, Scripts, and Transcriptions.* 5th ed. Randolph, Wisconsin: Educators Progress Service, 1959. xii+230 pp.

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An Experimental Summer Program

[*Continued from page 119*]

profited from his experience, and whether there was any transfer to acceleration in the regular winter term. More than 90 per cent of the parents believed that the summer program had not been presented too rapidly for proper assimilation. Approximately 80 per cent noted a favorable effect on the students' attitudes. This was reflected concretely in improved study habits—noted by about 60 per cent. The most significant question, perhaps, dealt with whether parents would be interested in having their sons and daughters take one or more college courses in the senior year. All but two of the parents who returned the questionnaire indicated such interest.

The best indication of the success of the program seems to lie in the fact that many parents want their sons and daughters to take part in a similar program this summer. Certain observations were made on the basis of the experimental program. There should not be too wide an age spread among the students participating. Also language courses should be added, and a more diverse English program undertaken.

Plans are now under way to offer twice as many courses in the coming summer. The original experimentation is over, and it is hoped that this opportunity may be offered to twice as many students in the advanced-summer school program in 1959.

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